

WHAT IS CLAIMED IS:

1. A periosteal distraction osteogenesis method comprising:
applying to a surface of living bone that is covered by soft tissue, a sheet member for covering at least a portion of the bone surface under the soft tissue, at which bone growth that is outward and normal to the bone surface is desired;
securing an attractor member at an outwardly spaced location from the portion of the bone surface at which the bone growth is desired; and
magnetically attracting the sheet member and the attractor member to each other for applying a pulling force on the sheet member that is away from the portion of the bone surface at which bone growth is desired for causing growth of bone outwardly and normally to the bone surface.
2. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet.
3. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable mesh material and the attractor member is a permanent magnet.
4. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable perforated material and the attractor member is a permanent magnet.

5. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material having an increased attraction characteristic at said portion of the bone surface and less attraction characteristic around said portion of the bone surface.

6. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the method including wrapping the edentulous area of the jawbone crest with the sheet member and securing the attractor member to at least one tooth that is adjacent the edentulous area of the jawbone crest.

7. The method of claim 1, wherein the sheet member is a sheet of saddle shaped magnetically attractable mesh material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the method including wrapping the edentulous area of the jawbone crest with the sheet member and securing the attractor member to at least one tooth that is adjacent the edentulous area of a jawbone crest.

8. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the method including wrapping the edentulous area of the jawbone crest

with the sheet member and securing the attractor member across two tooth that are on opposite sides of the edentulous area of the jawbone crest, outwardly of the soft tissue which comprises gingival tissue over the edentulous area.

9. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising a frontal surface of a mandible under tissue of a chin of a subject, the method including wrapping the frontal surface of the mandible with the sheet member and securing the attractor member over a front of the chin of the subject.

10. The method of claim 1, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising a damaged end of a long bone of a subject having soft tissue over the damaged end, the method including wrapping the damaged end with the sheet member and securing the attractor member over the soft tissue that is over the damaged end.

11. A periosteal distraction osteogenesis apparatus comprising:
a sheet member for covering at least a portion of a surface of living bone that is covered by soft tissue, the sheet member being adapted to be under the soft tissue and bone growth outwardly and normally to the bone surface being desired;

an attractor member adapted to magnetically attract the sheet member for exerting a pulling force on the sheet member in a direction outwardly and normally of the bone surface; and

means for securing the attractor member at an outwardly spaced location from the portion of the bone surface at which the bone growth is desired for pulling on the sheet member to cause growth of bone outwardly and normally to the bone surface.

12. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet.

13. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable mesh material and the attractor member is a permanent magnet.

14. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable perforated material and the attractor member is a permanent magnet.

15. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material having an increased attraction characteristic at said portion of the bone surface and less attraction characteristic around said

portion of the bone surface.

16. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the sheet member being adapted to be wrapped over the edentulous area of the jawbone crest and the means for securing comprising means for securing the attractor member to at least one tooth that is adjacent the edentulous area of the jawbone crest.

17. The apparatus of claim 11, wherein the sheet member is a sheet of saddle shaped magnetically attractable mesh material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the sheet member being adapted to be wrapped over the edentulous area of the jawbone crest and the means for securing comprising means for securing the attractor member to at least one tooth that is adjacent the edentulous area of the jawbone crest.

18. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising an edentulous area of a jawbone crest, the sheet member being adapted to be wrapped over the edentulous area of the jawbone crest and the means for securing comprising means for securing

the attractor member across two tooth that are on opposite sides of the edentulous area of the jawbone crest, outwardly of the soft tissue which comprises gingival tissue over the edentulous area.

19. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising a frontal surface of a mandible under tissue of a chin of a subject, the apparatus including the sheet member being adapted for wrapping the frontal surface of the mandible with the sheet member and means for securing the attractor member over a front of the chin of the subject.

20. The apparatus of claim 11, wherein the sheet member is a sheet of magnetically attractable material and the attractor member is a permanent magnet, said portion of the bone comprising a damaged end of a long bone of a subject having soft tissue over the damaged end, the apparatus comprising the sheet member being adapted for wrapping the damaged end with the sheet member and means for securing the attractor member over the soft tissue that is over the damaged end.

21. An osteogenesis method comprising:
applying to a surface of a damaged end of a living long bone on one side of a fracture covered by soft tissue, a first attractor member;

applying to a surface of a damaged end of a living long bone on an opposite side of the fracture covered by soft tissue, a second attractor member; immobilizing the bone on both sides of the fracture; and magnetically attracting the first and second attractor members toward each other for applying a pulling force on each damaged end for causing bone growth toward the fracture from both sides of the fracture.

22. An osteogenesis apparatus comprising:

a first attractor member for being applied to a surface of a damaged end of a living long bone on one side of a fracture covered by soft tissue;

a second attractor member for being applying to a surface of a damaged end of a living long bone on an opposite side of the fracture covered by soft tissue;

means for immobilizing the bone on both sides of the fracture; and

means for magnetically attracting the first and second attractor members toward each other for applying a pulling force on each damaged end for causing bone growth toward the fracture from both sides of the fracture.